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Safety Leadership and the Project Manager: Competencies Required to Positively Affect Site Safety Culture

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An arguable means to address injury and fatality rates in the Australian construction industry is the improvement of site safety culture. When understanding how safety culture is influenced, it is important to note the significant role that both management and leadership have in determining the quality of a safety culture (Barling, Loughlin & Kelloway 2002; Zohar 2002). Hence, professions such as Project Management will need to be, and produce safety leaders. Focus groups were conducted with eleven of Australia's largest construction contractors with the purpose of identifying safety critical positions and the characteristics, competencies and attitudes required by people who hold these roles, to be successful safety leaders. Analysis of the results revealed the important position that Project Managers are in to effectively lead safety behaviours, as well as the strong role that safety knowledge, communication and interpersonal style have in determining the quality of their safety leadership.

Introduction

"Safety onsite is everyone's responsibility" is a common catch cry in the construction industry. While the statement is accurate, it does not reflect the reality that some positions, such as the Project Manager, have stronger roles than others in influencing site safety. In holding management responsibilities and having the legitimate authority to provide leadership, the Project Manager is in a unique position to drive the values and attitudes held onsite towards safety. Though several general guides outlining the Project Manager's role in maintaining a safe site are available (eg. European Construction Institute 1992), little published information directly outlines the specific skills and abilities that Project Managers require to develop and maintain a positive safety culture in the Australian construction industry. Hence, research into the Project Manager characteristics that facilitate safety should help to inform the development of the Project Manager of the future.

Safety Culture and the Project Manager

Safety culture is a concept that is used to describe the values, norms, attitudes and beliefs that are held collectively towards safety within an organisation (Cox, Tomas, Cheyne, & Oliver 1998; Glendon & Stanton 2000; Williamson, Feyer, Cairns & Biancotti 1997). It is thought that these values, attitudes, norms and beliefs guide behaviour by indicating to employees

what will be rewarded or punished by the organisation. As safety culture is a source of influence in determining safety outcomes, the construct can be a useful tool to manage and further improve safety outcomes in the construction industry.

Typically, most research has found that safety culture is determined by the commitment, ability, leadership and communication styles of management; and the participation, competency, training, behaviour and attitudes of individual workers (Farrington-Darby, Pickup & Wilson 2005; Guldenmund, 2000; Neil & Griffin 2004; Glendon & Stanton 2000). As a consequence, a key to utilising safety culture is identifying the specific competencies required by site management to successfully achieve the above attributes and characteristics.

Research that has been completed across industries reveals a wide range of skills and abilities that a Project Manager requires to maintain a safe site. Overall analysis of this research reveals that two key competencies may be important for Project Managers in the management of safety. The first of these is referred to as hard knowledge; an articulated understanding of relevant site principles and their practical application. In relation to safety, this translates beyond merely ensuring the Project Manager possesses the technical knowledge of requirements and regulations, extending into the assessment of more applied areas such as pre-commencement planning, the coordination of the project team, contingency management and problem solving (Donnelly & Kezsbom 1994; Veteto 1994).

The other competency emerging as worthy of examination is referred to as soft skills, encompassing the people management side of the Project Manager's role. This can be thought of as the Project Manager's approach to leading the project team, especially as related to the application and propagation of hard knowledge principles within the team. The manager's leadership approach is reflected in their communication style with team members, including such factors as the extent to which they rely on authoritarian versus collaborative approaches to management and decision-making (Sotrlou & Wittmer 2001). An emergent theme in the literature is a move toward empowerment, personalisation and flexibility in management, an approach typified by the leader-member exchange theory (LMX) (Hofman & Morgeson 1999). Such an LMX-motivated approach portrays the Project Manager as the personal embodiment of the desired site values, accordingly setting a strong precedent to subordinates. This form of engagement may be important for fostering a good safety climate, as these approaches have been observed to generate reciprocal commitment to core values from members of the project team (Martin, Thomas, Charles, Epitropaki & McNamara 2005).

Though there has been prior mention of the roles of soft and hard skills in the Project Management literature, there has been a dearth of information exploring the competencies beyond generalities (Frame 1999). Research is needed to determine the practical importance of these skills, with specific focus on building an understanding of what specific facets of these competencies are indicative of superior performing Project Managers. This paper seeks to fill this gap in the research through consultation with industry professionals, drawing on their practical expertise and experience toward the construction of a more integrated and articulated model of hard and soft skill application that is directly relevant to on-site practice.

Methodology

The researchers sought to gather information free from many prior assumptions taken in the safety research. As a result, a qualitative approach was taken to gather information relating to safety culture management skills, with participants asked to provide their own opinion on

safety management rather than comment on previous findings (for example, through a survey). This research and other ongoing research has been funded by the CRC for Construction Innovation and John Holland Group and in partnership with Bovis Lend Lease, Queensland University of Technology, University of Western Sydney and the Office of the Australian Safety and Compensation Council.

To achieve the project's aims, member organisations of the Australian Constructors Association were contacted to participate in the research. Through this contact and via industry word of mouth, eleven organisations agreed to participate in focus groups. The researchers did not request specific staff, but rather asked the company representative (typically the Senior Safety Manager) to invite four to six people whom they thought were in a position to drive safety culture and attitudes. As can be seen in Table 1, this approach resulted in a range of different staff. All forty eight participants involved in the study were employees of major construction contractors in Australia, with representatives involved from all Australian States and Territories.

Table 1: Position Title and Number of Participants

| Position | Number of Participants |
|--|------------------------|
| Senior Management (Inc CEO & GMs) | 7 |
| Senior Safety Managers | 12 |
| Construction Management (Inc Project Managers & Construction Managers) | 12 |
| Site Safety Coordinators / advisors | 10 |
| Site Management (Inc Engineers, Foremen & Supervisors) | 7 |
| Total | 48 |

The focus group discussion lasted on average one hour and fifteen minutes and was structured around a discussion of safety culture and the attitudes, skills and behaviours required by key staff members to drive a positive safety culture. The focus groups were recorded using digital voice recorders and then transcribed. The transcribed documents were then used in the qualitative data analysis programme Nvivo. The software allows for themes from the focus group discussion to be extracted and categorised.

Results

When participants were asked what roles/positions were critical to safety, they confirmed the importance of the following key positions: Company Board Members, Managing Directors / Chief Executive Officers, Safety Managers, Construction Managers, Project Managers, Superintendents / Site Managers, Foremen, Supervisors, and Safety Co-ordinators / Advisors.

A common comment was to dispel the myth that safety leadership is the responsibility of those people with "safety" in their role title. As a consequence, the Project Manager (being the head management position on-site) was seen as having an undeniable role in providing safety leadership on-site. Hence, the Australian Institute of Project Management Annual Conference, presents a unique opportunity to focus on the role and actions of the Project Manager in leading safety. The following results section fill focus on this important role.

Analysis of the focus group transcripts for major themes revealed a wide range of different skills, attitudes and behaviours required by Project Managers (and other site managers) to positively influence site culture. The following section outlines the key behaviours associated with the development of a work environment that values safety.

Data analysis also confirmed the two types of competencies: hard knowledge and soft skills. Hard knowledge refers to quantifiable understanding of safety and what is safe versus unsafe behaviour, whereas soft competencies relate to the way in which the hard knowledge is enacted and expressed. Hence, there are two important abilities for Project Managers: the ability to identify what is safe and unsafe and the ability to effectively transfer to the workforce an understanding of safety and the importance of working safely.

Hard Knowledge

When participants were asked to identify the skills and knowledge that they believed were paramount to driving site safety, the first response was frequently “common sense.” When asked to elaborate, participants indicated that common sense arose out of a fundamental understanding of what was safe / unsafe. This understanding allows managers to identify and manage risks, appropriately plan work activities, as well as to apply safe work principles to novel situations. For example:

Well if you don't have common sense, all of those forms that we use to administer safety mean nothing to a person without common sense. The foreman needs to see what the risks are and get them onto paper to allow you to document what the thing is.

I think you've got to just make sure they've got a good understanding of OH&S principles, a longer site induction than you would normally give them, on site induction, and basically keep an eye on them yourself to see how they are handling things and what's going on.

Look I think common sense is from time to time we all come across activities that we're not familiar with be it, a structure in a central space, like we've got out there or whatever it be, a specialist trade you're not familiar with, so experience doesn't come to a play ... you either have common sense, you get it explained to you what the activity is and you've got the common sense to deal with it, and manage it appropriately from there.

In discussing how it is that a manager may acquire “common sense”, the participants indicated that formal and informal training play a strong role. Informal training included mentoring and observational learning, whereby younger staff are encouraged and given the opportunity to learn from the experience of older staff about site safety, how it can be managed and how various problems may be solved. Formal training involved undertaking specific training courses addressing various site issues, such as the recognition of unsafe scaffolding erection, that provide guidelines for their safe completion. This understanding of safety means that the Project Manager is able to assess workforce safety performance, and is in a position to reinforce good safety performance and address poor safety performance, thereby effectively communicating to the workforce the values and commitment held by management towards safety.

Soft Skills

As mentioned previously, the soft skills classification refers to the skills required to effectively undertake the traditional safety management roles and tasks. Key themes classified under this category are communication and leadership style. Fundamentally, these factors appear to relate to the Project Manager's ability to form relationships with staff and gain workforce commitment to and ownership of site safety management.

The ability to effectively communicate with employees, though not an easy skill to master, is an obvious requirement for good leadership. When describing effective communication, the focus group participants indicated that flexibility in style was important. That is, the ability to assess whether to speak to the workforce firmly or congenially depending on the person and situation. For example:

A completely different approach with each job. It just depends on who you are dealing with, like Ron [name changed] said,..... some you can use the wheeling and dealing side of it, others well, you've just got to draw a line in the sand and that's it.

Other effective communication strategies discussed were the ability to gain greater audience understanding of the message by listening to and integrating others' perspectives. For example:

I think it's listening, not only listening but hearing what people are saying to you, also the ability to put yourself into their shoes and see what they're [saying], what sort of frame of mind they're coming from

Avoiding the assignment of blame was also raised as a useful strategy to allow worker engagement with the safety management process. It was argued that blame served to reinforce an "us and them" culture, which meant that the workforce would be less likely to listen to management or engage with management's message. Communication styles that avoided the assignment of blame were argued to foster better relationships, which in turn resulted in greater worker engagement in safety problem solving. For example:

Most of these construction guys - if you walk in and tell them you will do this, they will kick you to death every single time, you've got to- and each person's different, I mean and the way you've approached Neil [name changed] is a different way to the way I would approach you. There is a certain type of people that you've got to go in boots and all if it depends on what the issue is, and then you've got to go over their head to the next level,

[Y]ou need to be able to go in with solution one, solution two, solution three, and get their input, and the more input that you can get from them, the more you can mix their idea in with yours, therefore they think if it's more their idea then you can sell it, and it will work, like a sales pitch.

A communication style that personalised the safety message was another theme that commonly emerged. Underlying this theme was the notion that workers engaged at greater level with the safety message if they understood the consequences of poor safety at the personal level.

...[B]ut when you personalise it like that it adds a whole different meaning to it, when you know that there's individuals involved and how that impacts on them, and when you go and you talk to people on a project and say to them.... I had a session with some construction workers probably six months ago where the father and the son was on it, and to be able to say to the father I am sure you want your son to go home safely every night, and you say well we need to actually do things a little differently - well what does he say? He can't say anything but, of course, you know what I mean?

The leadership style Project Managers employed was a frequently mentioned factor in determining the quality of the site safety culture. Commonly discussed topics included the ability of Project Managers to; delegate responsibility, provide clear expectations, display work competence, and be highly organised in planning the construction activity.

At a more elementary level, participants believed that a positive safety culture arose out of a leadership style that encouraged relationship building and collaboration. Relationship building was viewed as time spent meeting and engaging with the workforce. Usually this process involved the sharing of non-work related information, so as to foster a greater understanding and awareness of the people on site. For example:

... It's a relationship, safety is a relationship between people you know.... It's a trust in a relationship, the pre-start meetings and tool box meetings when done correctly are what it's all about, and accepting peoples views regardless of what their comments are by taking them in, by taking it as their one big issue and addressing it as such and understanding it as such.

Good relationships on site were seen as vital to the establishment of a culture that valued the health and welfare of the workforce. It was discussed that if the workforce had a better understanding of management and each other, there would be a reduction in the "us and them" mentality observed both in terms of management versus workers, and in segregation between trades. The weakening of traditional group segregation would then encourage people to be more active in overall site safety management as they view themselves as being part of a larger group of people responsible for the construction.

In addition to relationship formation, the role of collaboration was highlighted by participants as being important in developing and maintaining safety culture. Collaboration typically involved asking for workforce input in planning decisions and problem solving, both in regards to safety and in terms of actual construction work. It was argued that a collaborative approach would result in a greater sense of ownership over the work, which would in turn improve the likelihood that the worker would follow the methods agreed upon in the problem solving process. Hence, a Project Manager who spent time meeting with the workforce and encouraging worker participation in decision making should encourage the development of a positive safety culture.

Discussion

Key to the development and maintenance of a safety culture is the communication of management values and beliefs in such a way as to engender within the workforce the same values and attitudes (Guldenmund 2000; Neil & Griffin 2004; Glendon & Stanton 2000). This information is transmitted from management to the workforce via behaviour and actions. As the Project Manager holds a particularly influential management role, they hold a great degree of responsibility in driving a positive site safety culture. The focus group research

supported this finding and further established the specific requirements needed in Project Managers in order to positively impact site safety culture.

Competencies Required.

1. Specific Safety Knowledge

- a. Ability to identify unsafe work practices
- b. Knowledge of safer work methods
- c. Ability to problem solve to achieve safer work practices

Specific knowledge relating to safety should enable a Project Manager to more effectively reinforce good performance and to intervene when he/she encounters poor performance. A good knowledge of safety should help to avoid re-enforcement by omission, where the workforce assumes that unsafe behaviour is acceptable merely because it is not stopped or punished. In relation to engendering this safety knowledge in Project Managers, organisations should: seek to develop training programmes based on identified knowledge gaps; facilitate the use of informal mentoring / coaching; and to develop knowledge management systems to aid in the diffusion of knowledge regarding safety best practice.

2. Interpersonal Communication Skills

- a. Listening skills
- b. Perspective taking
- c. Flexibility in style
- d. Ability to choose appropriate style
- e. Avoidance of blame assignment
- f. Personalisation of communication

Good interpersonal communication skills enable Project Managers to effectively convey to the workforce: the importance of working safely; how work needs be completed to maintain safety; and management's commitment to safety. Effective communication will also serve to reduce conflict. Finally, safety communication will be more successful if it is seen to have some sort of personal resonance, helping the workforce to understand how poor safety will impact them at a real and personal level.

3. Leadership Style

- a. Collaboration
- b. Relationship building
- c. Trusting
- d. Delegation
- e. Empowering

The style in which a Project Manager leads is important in developing and maintaining a positive site safety culture. Central to this leadership theme is the Project Manager's ability to foster good relationships with staff and the workforce. Leadership theories such as Leader-Member Exchange hold that good leader-follower relations encourage the followers to behave in a manner which is aligned with the leader's goals and values (Hofman & Morgeson 1999). Therefore, if the Project Manager has good relations with his/her staff and they behave in a manner that promotes work safety, their subordinates will be inclined to behave safely as a means of social reciprocation. Consequently, the Project Manager of the future should seek

to develop a leadership style that promotes collaboration and relationship building, while still maintaining authority and discipline.

Given the difficult and demanding climate in which Project Managers work, it is not an easy task to engender these types of “soft skills” in today’s and tomorrow’s Project Managers and to motivate them to use these skills. It is proposed that the best strategy to maximise the potential of soft skills is, first educate Project Managers as to effective behaviour and then link this behaviour with traditional performance appraisal techniques. Project Managers should be given feedback as to their leadership style (using reliable & valid psychometric tests) and given coaching / advice as to how to maximise their strengths and minimise their weaknesses. Finally, at an ultimate level, management above the Project Manager should display the very same leadership characteristics required / desired in Project Managers.

Limitations

A limitation with a qualitative research design is that it relies on the opinion of participants, thereby revealing only information that is already known. That taken, this research still serves the important purposes of uncovering that information, and summarising and returning the data to the industry so that it can form a guide for best practice in safety management. It is recommended that data is collected in an empirical and experimental manner to confirm these research findings.

Conclusion

The eleven focus group discussions outlined several key competencies that would relate to best practice in Project Management. Developing and achieving these competencies should allow the Project Manager to communicate to the workforce the commitment of management toward safety values. These in turn should improve safety culture and safety behaviour on-site.

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